

U.S. Patent Application of Maeda
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tape, and directly guiding the light onto the side of the reel for detection of the reel, a light receiving element for receiving the light guided onto the side of the reel, a light passing portion or a light screening portion provided on the reel so as to cross the light path reaching from the light guiding member to the light receiving element through the rotation of the reel, characterized in that the light emitting element and the light receiving element are provided under a deck chassis for mounting main components including the reel of the video cassette deck, and the light guiding member guides the light from the light emitting element below the deck chassis to a point above the deck chassis and thereafter to the light receiving element under the deck chassis by way of a light passing portion provided on the reel when aligned with an opening portion on the deck chassis.

REMARKS

This Amendment is responsive to the Office Action mailed June 4, 2001.

The Examiner's comments in that Office Action have been carefully considered.

Applicant respectfully requests a three month extension of time to extend the due date for response in this application to December 4, 2001. A check in the

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amount of \$920.00 is enclosed in payment of the extension fee. In the event that this is not sufficient, please charge any remainder due to account no. 10-0100.

Claims 1, 2 and 8-25 have been rejected as being indefinite for reasons set forth in paragraph 4 of the Office Action. In this connection, the Examiner questions whether the detection of the leading and entraining ends of the magnetic tape is performed by another light-receiving element or the same light-receiving element for receiving light guided onto the reel.

As can be noted from Figs. 2 and 3, which show conventional arrangements of comparable mechanisms, and from Figs. 1, 4 and 5, which illustrate mechanisms in accordance with the invention, the initial light beam issued by the transmitting element is split into two primary beams or sets of beams, one being used to sense the leading and entraining ends of the magnetic tape, while the other is used to sense the rotation of the reel. Thus, claim 1 recites that the mechanism is provided with a light-emitting element and a light guide member (43 or 63) for guiding light from the light-emitting element into the cassette for detecting the leading and entraining ends of a magnetic tape, and also for directly guiding the light onto the side of the reel for detecting its rotation.

Therefore, in answer to the Examiner's inquiry, the detection of the leading and entraining ends of the magnetic tape is performed by a light-receiving element that is different than the light-receiving element for receiving light guided onto the reel. In Figs. 1 and 5, only those receiving elements used to detect the rotation of the reel are shown. However, it should be evident that in all Figs. 1, 4 and 5, another portion of the beam projects upwardly through the members 43 and 63, for use with detection of the ends of the magnetic tape.

All the claims have been rejected as being obvious on the basis of applicant's admitted prior art (AAPA). The Examiner defines such AAPA as all Figs. 2-5, and specifically relies on Fig. 4 for the teaching of a light-receiving element on the deck chassis (page 4 of Office Action). In rejecting claim 1, the Examiner relies on Fig. 3 and states that this Fig. teaches a light-emitting element provided under the deck chassis. However, this is clearly contrary to the description of this Fig. at page 3 of the specification, where it is stated that the light element 51 used to sense the rotation of the reel is "provided on the chassis 20 ... because it is not engaged directly on the main substrate 30." It can be seen from Fig. 3, and it is suggested in the specification at page 3, that the light-receiving

element 51 is arranged above the chassis 20, although it may be directly or indirectly supported on the main substrate 30. In such an arrangement, the mechanism has the same disadvantages that are discussed in the Background of the Invention, namely, that the indicated arrangement that separates one of the light elements from the other creates and complicates the electrical wiring configurations. It is for this reason that the subject invention is directed to the placement of all the optical elements, transmitting or receiving, directly on the main substrate.

As explained to Examiner Luu in a telephone conference on December 4, 2001, Figs. 4 and 5 do not constitute part of AAPA prior art, but rather show the subject invention. This confusion may have initially resulted from the format of the application as initially filed. Now, new headings have been inserted, and the specification has been rearranged to more closely follow U.S. standard patent practice; it is hoped that this kind of confusion is, therefore, no longer possible. In making such revisions, Figs. 4 and 5 now begin the section entitled "SUMMARY OF THE INVENTION," and are no longer part of the original section entitled "Description of the Prior Art."

It should now be clear from a comprehensive review of the application that

the applicant has intended to overcome those problems that arise from construction of detection mechanisms where the optical elements are not all mounted on a common substrate. The solution in accordance with the present invention is to place all the optical elements on one common substrate, as is only depicted, and as is clearly depicted, in Figs. 1, 4 and 5. Figs. 2 and 3, on the other hand, are clearly shown as prior art constructions that were disclosed in published Japanese applications (pages 2 and 3 of the specification).

This is also believed to be clearly confirmed and supported by the description of the preferred embodiments, which specifically refers to Figs. 1, 4 and 5. Thus, all of Figs. 1, 4 and 5 are referred to at page 9 of the application, Fig. 4 is again referred to at page 10 of the application, and Fig. 5 is again referred to at page 11 of the application. These references to Figs. 1, 4 and 5 should also be read in relation to the brief description of Figs. 4 and 5, where Fig. 4 is described as a construction of a detection mechanism, and Fig. 5 refers to "one portion" of the mechanism shown in Fig. 4. The original reference to "conventional reel rotation and detection mechanism" describes not the overall construction shown in Fig. 5 but, rather, a conventional sensor gear 53 having portions 53a commonly

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used to detect rotation of a reel. However, the placement of the sensors 41, 51 on the main substrate 30, the diversion of part of the transmitted light by portion 43b and the guidance of such light by the light-guiding member 52 to the light-receiving element 51 is fully in accordance with the present invention.

In view of the foregoing, it is respectfully requested that the Examiner revise his position on Figs. 1-5 so that it is fully understood that only Figs. 2 and 3 depict prior art, and so that Figs. 4 and 5 no longer be considered as part of the prior art. It is also respectfully requested, in view of the arguments above and the amendments now made to the present invention, that the Examiner withdraw his rejections on the basis of indefiniteness and obviousness.

New claims 26 and 27 have been added specifically directed to the construction shown in Fig 1. In these claims the detection mechanism includes a reel having a disk portion provided with an opening eleven through which light can be transmitted, as shown. Clearly, claims 26 and 27 do not introduce new matter, and more clearly distinguish over the applied art.

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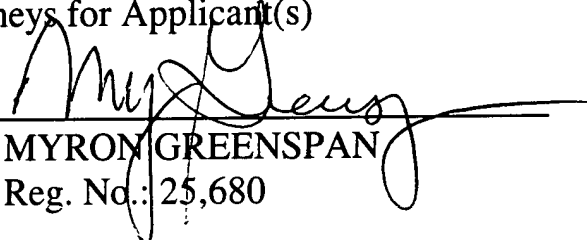
In view of the above, it is now believed that this application is in condition for allowance. Early allowance and issuance is respectfully solicited.

Dated: December 4, 2001

Respectfully submitted,

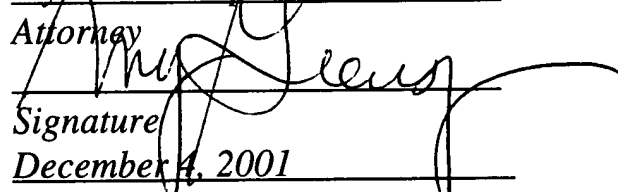
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Certificate of Deposit by Mail

I hereby certify that this correspondence is being filed by depositing same in an envelope stamped first-class mail, addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, in a duly marked U.S. Postal Service drop box, with appropriate postage, on the following date:

Myron Greenspan
Attorney

Signature
December 4, 2001
Date

Applicant hereby petitions that any and all extensions of time of the term necessary to render this response timely be granted. COSTS FOR SUCH EXTENSION(S) AND/OR ANY OTHER FEE DUE WITH THIS FEE DUE WITH THIS PAPER THAT ARE NOT FULLY COVERED BY AN ENCLOSED CHECK MAY BE CHARGED TO DEPOSIT ACCOUNT #10-0100.

ATTACHMENT: Amended claim 1 with additions and deletions marked.

1. (Twice-Amended) A reel rotation and detection mechanism for a video cassette deck comprising:

a light emitting element for emitting light used to detect the leading end and the entraining end of a magnetic tape within a cassette arranged within the video cassette deck, a light guiding member for guiding the light from the light emitting element into the cassette for [conducting] detecting the leading and entraining [detection of the] ends of a magnetic tape, and directly guiding the light onto the side of the reel for detection of the reel, a light receiving element for receiving the light guided onto the side of the reel, a light passing portion or a light screening portion provided on the reel so as to cross the light path reaching from the light guiding member to the light receiving element through the rotation of the reel, characterized in that the light emitting element and the light receiving element are provided under a deck chassis for mounting main components including the reel of the video cassette deck, and the light guiding member guides the light from the light emitting element below the deck chassis to a point above the deck chassis and thereafter to the light receiving element under the deck chassis by way of a light

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passing portion provided on the reel when aligned with an opening portion on the
deck chassis.